

### **REMARKS**

Applicants' Attorney wishes to thank Examiner Fortuna for the courtesies exchanged in the personal interview of Feb. 9, 2006. As we discussed in the interview, the product claims have been canceled from the pending application, leaving only the method claims. Independent claims 1 and 23 have been amended to require the latex be applied after applying the imidazoline quaternary compound or an ester-functional quaternary ammonium compound. New claims 48-62 have been added.

Claims 1-7, 9-16, 19, 21-27, 30-32, and 48-62 remain in this application, including independent claims 1, 23, and 48. Independent claim 1, for instance, is directed to a method for forming a tissue product, wherein a liquid furnish of cellulosic fibers is formed into a multi-layered wet web. An imidazoline quaternary compound or an ester-functional quaternary ammonium compound is applied to the furnish, the wet web, or combinations thereof. After applying the imidazoline quaternary compound or ester-functional quaternary ammonium compound, at least one latex is applied to the furnish, the wet web, or combinations thereof. The latex has a glass transition temperature of less than about 30°C and is applied in an amount less than about 60 pounds per ton of the dry weight of the cellulosic fibers. After application of the debonder and the latex to the furnish, the wet web, or combinations thereof, the wet web is dried so that at least one outer layer of the dried web contains the latex-treated cellulosic fibers. Additionally, greater than about 60% of the latex is retained on the cellulosic fibers. Finally, claim 1 recites that the tissue product exhibits a level of slough that is less than the level of slough exhibited by an otherwise identical tissue product formed without applying the at least one latex to the liquid furnish, the wet web, or combinations thereof.

In the Final Office Action, independent claims 1 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over either U.S. Patent No. 5,427,696 or 5,510,000 to Phan, et al. and U.S. Patent No. 3,844,880 to Meisel, et al., optionally with U.S. Patent No. 5,437,766 to Van Phan, et al.

As discussed in the interview, the method of independent claim 1, which requires applying a imidazoline quaternary compound or an ester-functional quaternary

ammonium compound and, thereafter, a latex, leads to higher latex retention percentages on the fibers used of the resulting tissue product. Applicants' specification points out that controlling the latex retention percentages to make such percentages higher leads to better inhibition of the production of slough from the web. Pg. 21-22. Thus, retaining the latex on the cellulosic fibers leads to the latex forming a flexible bond with the cellulosic fibers such that a resulting web is flexible and strong, while also producing low amounts of lint and slough (by way of example, amounts of slough that are at least 10% less than amounts generated by otherwise identical tissue products made without the addition of Applicants' claimed latex). (Appl. at page 4).

For example, referring to Example 2 of the presently application, the retention of latex applied to six fibers furnish samples were compared. To each sample, an imidazoline quaternary debonder, an anionic styrene-butadiene latex, and a polyacrylamide temporary wet strength agent (which also serves as a dry strength agent) were added. However, the sequence of addition of each additive was varied. The results of each test is shown in Table 2, which is reproduced below:

**Table 2: Sample Results**

| <b>Sample</b> | <b>1st Addition</b>   | <b>2nd Addition</b>   | <b>3rd Addition</b>   | <b>Turbidity</b> | <b>Retention %</b> |
|---------------|-----------------------|-----------------------|-----------------------|------------------|--------------------|
| <b>1</b>      | <b>Debonder</b>       | <b>Latex</b>          | <b>Strength Agent</b> | <b>38</b>        | <b>81</b>          |
| <b>2</b>      | <b>Latex</b>          | <b>Debonder</b>       | <b>Strength Agent</b> | <b>86</b>        | <b>45</b>          |
| <b>3</b>      | <b>Strength Agent</b> | <b>Debonder</b>       | <b>Latex</b>          | <b>51</b>        | <b>71</b>          |
| <b>4</b>      | <b>Debonder</b>       | <b>Strength Agent</b> | <b>Latex</b>          | <b>37</b>        | <b>82</b>          |
| <b>5</b>      | <b>Latex</b>          | <b>Strength Agent</b> | <b>Debonder</b>       | <b>66</b>        | <b>60</b>          |
| <b>6</b>      | <b>Strength Agent</b> | <b>Latex</b>          | <b>Debonder</b>       | <b>67</b>        | <b>59</b>          |

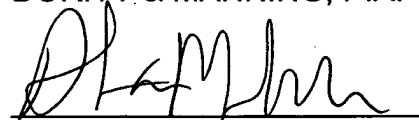
As shown, the sequence of chemical addition can have an effect on latex retention. When the imidazoline quaternary debonder is applied prior to the latex (as in samples 1, 3, and 4), the percent retention of the latex is higher (81%, 71%, and 82%, respectively) than the percent retention of the latex when the imidazoline quaternary

debonder is applied after the latex (as in samples 2, 5, and 6 having 45%, 60% and 59% retention, respectively).

Applicants respectfully submit that the present claims patentably define over all of the prior art of record for at least the reasons set forth above. As such, it is believed that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Should any issues remain after consideration of this Amendment, Examiner Fortuna is invited and encouraged to telephone the undersigned.

Please charge any additional fees required by this Response to Deposit Account No. 04-1403.

Respectfully requested,  
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